

# NUCLEONICA ...Science Networking and Applications

Joseph Magill

Research Fellows Meeting  
17th September 2007, 14:00

## Overview of Nucleonica:

- Homepage, Registration, News
- Nuclear Science Applications,
- NucleonicaWiki
- Networking/Community Pages

Welcome
Products & Prices
Free Trial
Training Courses
Educational Resources
Karlsruhe Nuclide Chart
News Releases
Ask an Expert
About Us
Contact

## Nucleonica - web driven nuclear science



**NUCLEONICA** is a new nuclear science web portal from the European Commission's Joint Research Centre. The portal provides a customisable, integrated environment and collaboration platform for the nuclear sciences using the latest internet "Web 2.0" dynamic technology.

**NUCLEONICA** is aimed at professionals, academics and students working with radionuclides in fields as diverse as the life sciences (e.g. biology, medicine, agriculture), the earth sciences (geology, meteorology, environmental science) and the more traditional disciplines such as nuclear power, health physics and radiation protection, nuclear and radiochemistry, and astrophysics. It is also used as a knowledge management tool to preserve nuclear knowledge built up over many decades by creating modern web-based versions of so-called legacy computer codes.

**NUCLEONICA** provides "software as a service" on the web rather than through installed software, adding a greater level of stability and security and avoiding version compatibility and update problems. In addition, all **NUCLEONICA**'s web applications are browser and operating system independent and can therefore be accessed by most web browsers.

**NUCLEONICA** offers the following main features:

### NUCLEONICA HOT TOPICS RSS

#### » **Nucleonica at a glance**

September 08, 2007

**NUCLEONICA** is a new science networking portal from the European Commission's Joint Research Centre. The portal provides



username   Login

### NUCLEAR NEWS RSS

#### Iran Denies Plans to Build Atomic Bomb

**SEP 09** Iran Denies Plans to Build an Atomic Bomb, but Says Nuclear Program Not Negotiable [...]

#### More For Than Against Nuclear Power - Survey

**SEP 09** A total of 46% of people said they supported or strongly supported the continued use of nuclear power. Only a quarter of people saying they either opposed or strongly opposed the idea. But 89% of people [...]

#### Iran denies plans to build atomic bomb

**SEP 09** Speaking to an audience of Revolutionary Guards, the elite military unit that answers directly to him, Supreme Leader Ayatollah Ali Khamenei made a rare direct statement that Iran is not interested in [...]

#### Hosseini calls recent NAM ministerial meeting a successful event

**SEP 09** Foreign Ministry Spokesman Mohammad Ali Hosseini here on Sunday called the recent Non-Aligned Movement (NAM) conference on 'Human Rights and Cultural Diversity' held in Tehran as a successful event. S [...]

#### Nuclear fusion project gets the green light

**SEP 09** Physicists have got the go-ahead to try to develop the process that powers the Sun to produce limitless, clean

## Nuclear Science Applications...

- Main Page
- Nuclide Explorer
- Dosimetry & Shielding
- webKORIGEN

## Nuclear science applications...

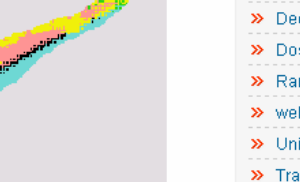
Applications

My Preferences

Help

New Alerts

Nuclide Explorer




» Actual Chart: Karlsruhe

Search Nucleonica Documentation

Search

Nuclear Data Retrieval



Application Centre

» Mass Activity Calculator

» Decay Engine

» Dosimetry & Shielding

» Range & Stopping Power

» webKORIGEN

» Universal Nuclide Chart

» Transport & Packaging

» Nuclide mixtures

» Nucleonica Scripting

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» Radiations

» Prompt Gamma

» Fission Yields

Knowledge Centre

» Nuclear News

» Reading room

» Useful Weblinks

» Ask An Expert

» Element Information

» Conference Calendar

Welcome, Joe

Edit Preferences

Administration

MyCommunity Portal

» My Last Nuclides

27 Co60

88 Ra226

88 Ra209

95 Am241

94 Pu242

» My Nuclide Mixtures

Ra222+daughters @1y

Decay Engine Result

Ra-226 + daughters 10 y

U232+Co60

test mixture

» My Sources

natu

» My Messages

Forum post: Karlsruhe Nuclide Chart

area of interest

IRPA 12, 19-24 October 2008, Buenos Aires, Argentine

Alphabetical listing of names

Open call for research fellowships at ITU

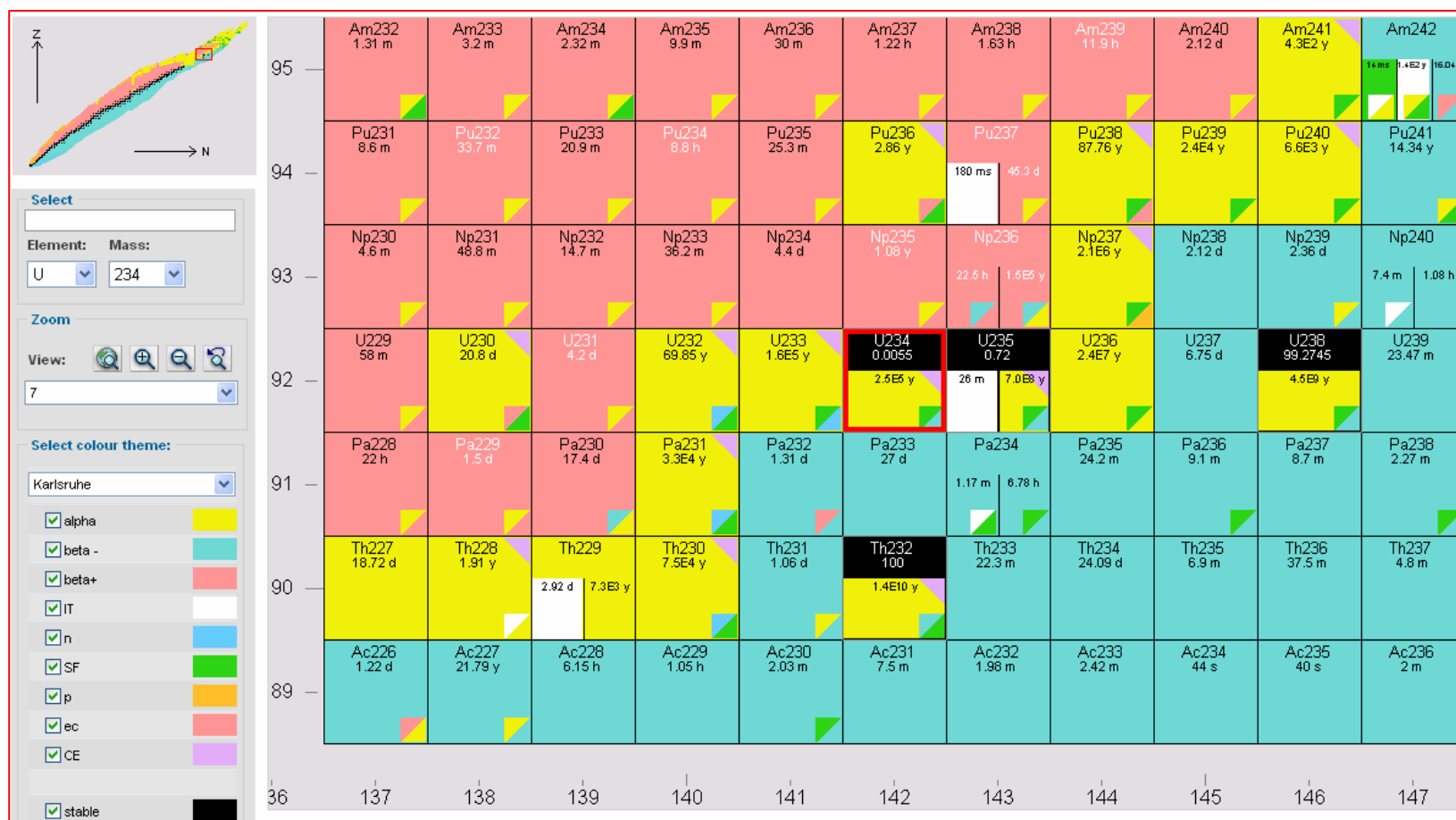
» User Alerts

A new user has registered: erika.kastl@ec.europa.eu

A new user has registered: brian.handy@amec.com

A new user has registered:

## Nuclide Explorer...



## Karlsruhe Nuclide Chart...









## Dosimetry & Shielding Module....

nucleonica ... web driven nuclear science

Applications My Preferences Print Help

Am241  
4.3E2 y

### Dosimetry and Shielding

95 Americium

Actual Chart: Karlsruhe

Element: Mass:  
Am 241 Nuclide Mixtures Selector

Dosimetry and Shielding Options

Source strength: Mass(g) 1

Shielding material: Pb 0 cm

Dose rate ( $\mu\text{Sv/h}$ )

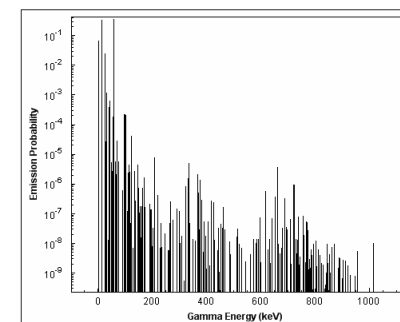
Source Shield Detector

Source/detector distance (cm)  
100

Start Reset

Half-Value Shield Thickness(cm)	8.04E-03
Tenth-Value Shield Thickness(cm)	4.00E-02
Equivalent Dose Rate Constant $\Gamma$ ( $\text{mSv}\cdot\text{m}^2/\text{GBq}\cdot\text{h}$ )	4.18E-03
Gamma Dose Rate ( $\mu\text{Sv/h}$ )	5.30E+02

## Dosimetry & Shielding Module....



Show Graph Settings  
Print  
Download

Half-Value Shield Thickness(cm)	8.04E-03
Tenth-Value Shield Thickness(cm)	4.00E-02
Equivalent Dose Rate Constant $\Gamma$ (mSv·m <sup>2</sup> /GBq/h)	4.18E-03
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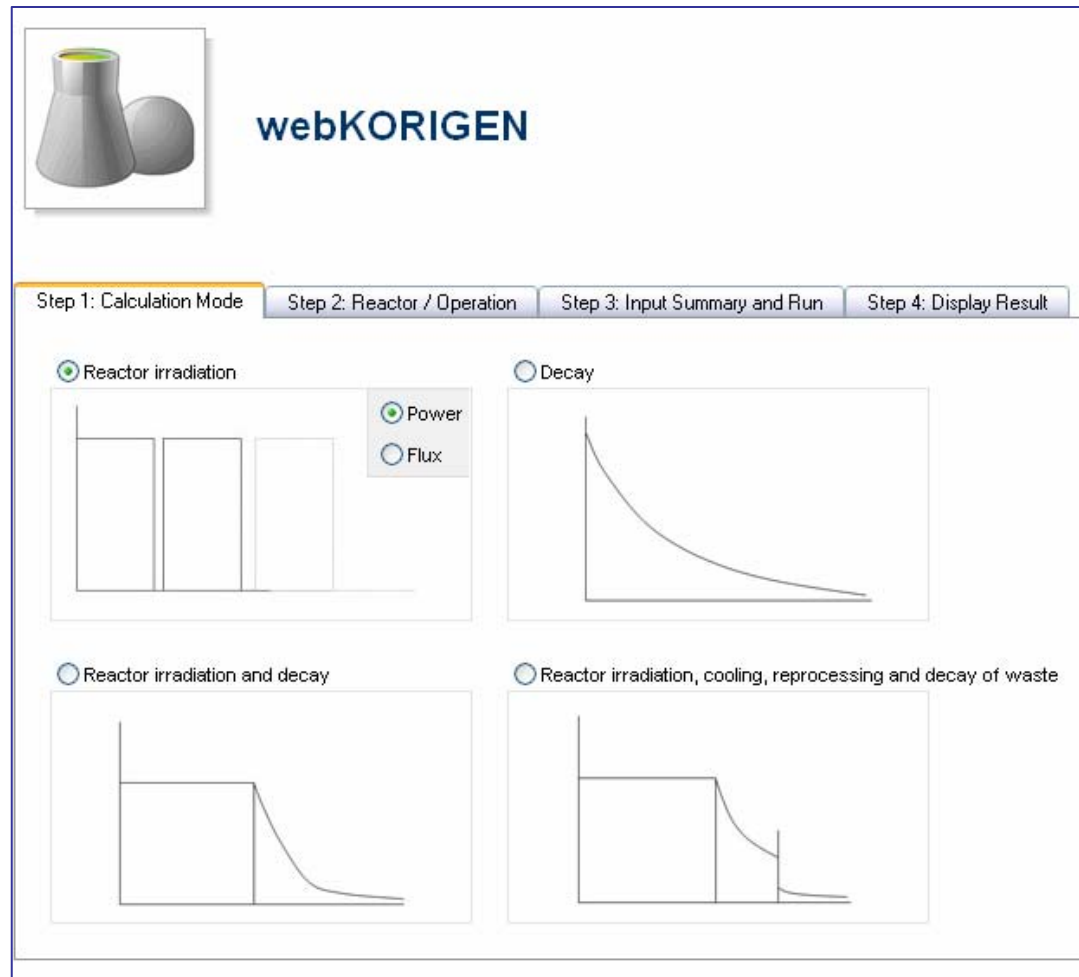
Download ☒ Excel ☐ CSV Separator: Semicolon (;) ☒ Use field qualifier (")

Number of lines (y):	185	$\Sigma$ E.P.(y):	2.24E+04
Number of lines (X):	7	$\Sigma$ E.P.(X):	5.10E+03
Number of lines (y+X):	192	$\Sigma$ E.P.(total):	2.75E+04


Download ☒ Excel ☐ CSV Separator: Semicolon (;) ☒ Use field qualifier (")

Gamma Energy (MeV)	Emission Probability P (per disintegration)	Mass Attenuation Coefficient (shielding)(cm <sup>2</sup> /g)	Number of Mean Free Path(μd)	Build-up Factor	Mass Absorption Coefficient (tissue)(cm <sup>2</sup> /g)	Gamma Dose Rate(μSv/h)
5.95E-02	3.60E-01	0	0	1	3.30E-02	4.12E+02
2.63E-02	2.43E-02	0	0	1	2.42E-01	9.01E+01
2.70E-02	6.26E-03	0	0	1	2.23E-01	2.20E+01
3.32E-02	1.22E-03	0	0	1	1.22E-01	2.87E+00

Fuel cycle scenarios....



## Fuel cycle scenarios....



### webKORIGEN

Step 1: Calculation Mode   Step 2: Reactor / Operation   Step 3: Input Summary and Run   **Step 4: Display Result**

Display Results at 100000 y for most important nuclides

Display quantity: Ing. Tox. (Sv)

Top Nuclides		Top Elements		Totals	
	Results		Results		Results
Tc99	8.724E+03	Technetium	8.724E+03	Activation Prod.	0.000E+00
Pu239	4.902E+03	Plutonium	5.550E+03	Actinides:	8.964E+03
I129	3.768E+03	Iodine	3.768E+03	Fission Prod.	1.586E+04
Sn126	1.424E+03	Tin	1.424E+03	Total	2.483E+04
Cs135	9.981E+02	Cesium	9.981E+02		
Pb210	9.615E+02	Lead	9.618E+02		
Pu242	6.438E+02	Thorium	8.997E+02		
Th229	6.057E+02	Zirconium	5.553E+02		
Zr93	5.553E+02	Radium	5.175E+02		
Np237	4.257E+02	Neptunium	4.257E+02		
Ra226	1.320E+06	Polonium	1.128E+06		
Po210	1.128E+06	Niobium	7.519E+05		
Th230	9.769E+05	Uranium	6.665E+05		
Nb93m	7.518E+05	Antimony	3.767E+05		
Ra225	3.995E+05	Actinium	1.630E+05		
Sb126	3.402E+05	Selenium	1.540E+05		
U234	3.345E+05	Bismuth	7.472E+03		
U233	2.307E+05				
Se79	1.540E+05				
Ac225	1.009E+05				

**Neutron and gamma rates**

Neutron rate: 34210 n/s

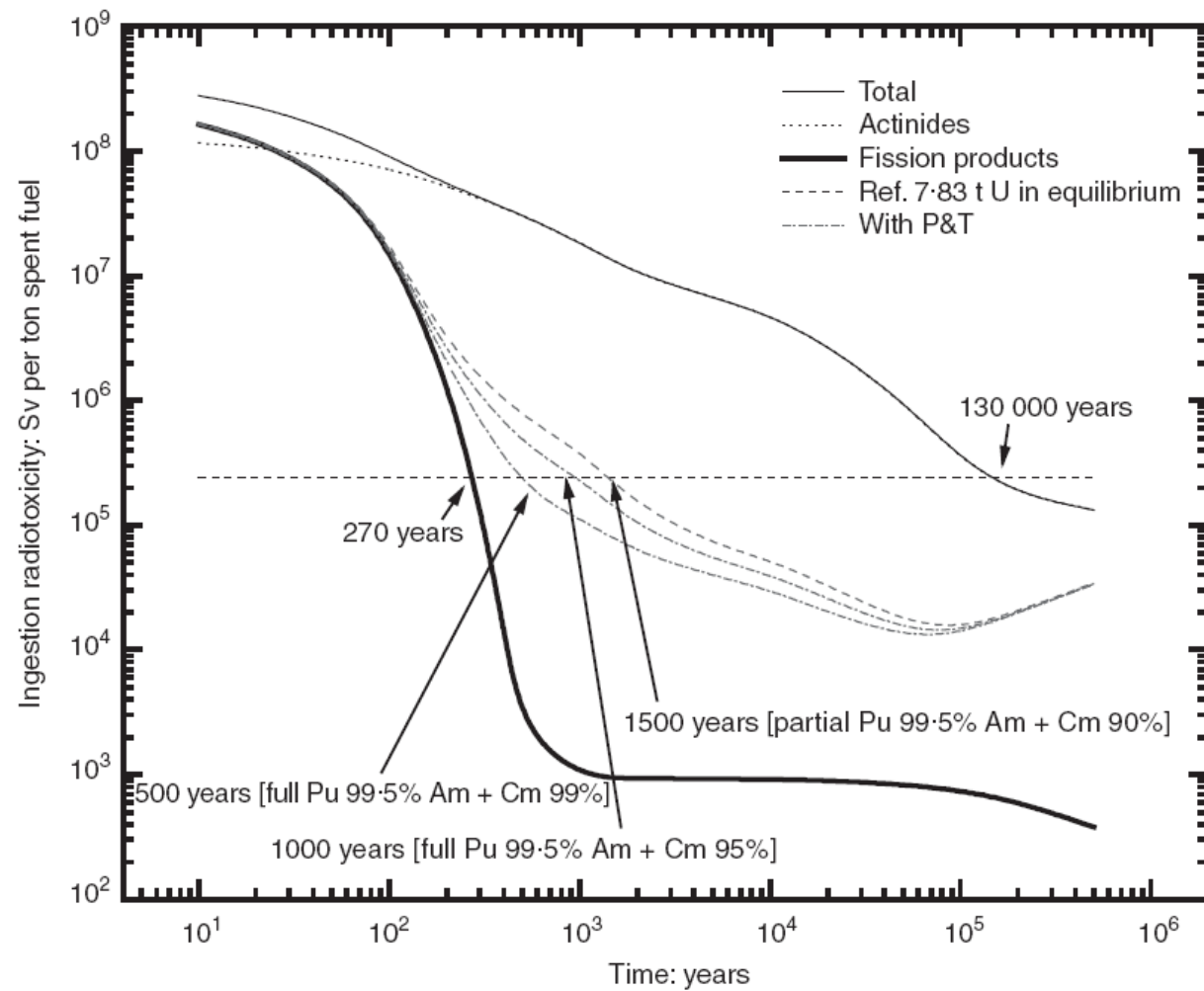
Gamma rate from Actinides: 4.091E+09 MeV/s

Gamma rate from FPs: 6.242E+11 MeV/s

Plot Nuclides
Plot Gammas
Plot Neutrons
Plot Elements
Plot Total
D

☒ Plot Nuclides 1-10  
 ☐ Plot Nuclides 11-20

## Fuel cycle scenarios....



## NucleonicaWiki...

- Main page
- Help
- Example: Radioactive Decay



## Nuclear science applications...

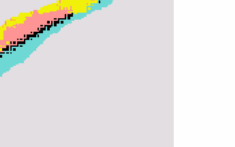
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Help

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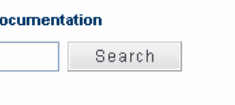
» Nuclide Explorer



» Actual Chart: Karlsruhe

» Search Nucleonica Documentation

Nuclear Data Retrieval



nucleonica  
[wiki]

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A new user has registered: brian.handy@amec.com

A new user has registered:



navigation

- [Main Page](#)
- [Community portal](#)
- [Current events](#)
- [Recent changes](#)
- [Random page](#)
- [Help](#)

search


toolbox

- [What links here](#)
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## Main Page

Welcome to NucleonicaWiki



How this Wiki is organized

### Navigate by category

[Documentation](#)
[Weblinks](#)
[Reading Room](#)
[Element Information](#)
[Ask an Expert](#)

This page was last modified 10:07, August 21, 2007. This page has been accessed 1,090 times.

special page

## Radioactive Decay Chains

It is very often the case that the daughter product of a nuclear decay is also radioactive. In such cases one speaks of radioactive decay "chains". As an example, consider the decay chain  $Q_1 \rightarrow Q_2 \rightarrow Q_3 \rightarrow \dots$  in which the starting or "parent" nuclide  $Q_1$  decays to the "daughter"  $Q_2$ . This daughter in turn is radioactive and decays to  $Q_3$ . More generally each nuclide in the decay chain  $Q_i$  can "branch" to more than one daughter. In addition, there may be an external source term  $S_i$  for the production of  $Q_i$  (apart from the decay of the parent).

The situation for successive radioactive decay is shown schematically in fig. 1. This general process of radioactive decay was first investigated systematically by Bateman (Proc. Camb. Phil. Soc. 16 (1910) 423. See also Skrabble, K., et al., Health Physics, 27, 1974, 155-157).

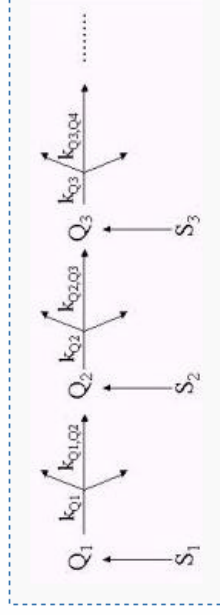


Figure 1. Successive radioactive decay with branching and source terms.

The differential equation governing the above processes can be written as:

$$\begin{aligned}
 \frac{dQ_1}{dt} &= S_1 - k_{Q_1} \times Q_1 \\
 \frac{dQ_2}{dt} &= S_2 + k_{Q_1, Q_2} \times Q_1 - k_{Q_2} \times Q_2 \\
 &\dots \\
 \frac{dQ_{i-1}}{dt} &= S_{i-1} + k_{Q_{i-1}, Q_i} \times Q_{i-1} - k_{Q_{i-1}} \times Q_{i-1} \\
 &\dots \\
 \frac{dQ_n}{dt} &= S_n + k_{Q_{n-1}, Q_n} \times Q_{n-1} - k_{Q_n} \times Q_n
 \end{aligned}$$

where  $Q_n$  is the number of atoms of species  $n$  present at time  $t$ ,  $k_n$  is the decay constant (total removal constant) for species  $n$  ( $k = \ln 2 / t = 0.69315 / t$ ),  $k_{n, n+1}$  is the partial decay constant (partial removal constant) and is related to the branching ratio

[edit]



H. Bateman

Mr Bateman, *Solution of a system of differential equations, etc.* 423

*The solution of a system of differential equations occurring in the theory of radio-active transformations.* By H. BATEMAN, M.A., Trinity College.

[Read 21 February 1910.]

1. It has been shown by Prof. Rutherford \* that the amounts of the primary substance and the different products in a given quantity of radio-active matter vary according to the system of differential equations,

$$\begin{aligned}
 \frac{dP}{dt} &= -\lambda_1 P \\
 \frac{dQ}{dt} &= \lambda_1 P - \lambda_2 Q \\
 \frac{dR}{dt} &= \lambda_2 Q - \lambda_3 R \\
 \frac{dS}{dt} &= \lambda_3 R - \lambda_4 T \\
 &\dots \dots \dots (1).
 \end{aligned}$$

where  $P, Q, R, S, T, \dots$  denote the number of atoms of the primary

## Nucleonica Networking...

- Main pages (My Profile, My Community, My Contacts, My Mailbox, My Groups)
- Applications (Graphics, Calendar, forums)

## Nucleonica "Start" page...

Applications   My Preferences   Print   Help

New Alerts

» Nucleonica Networking

- » Start
- » My Profile
- » My Contacts
- » My Mailbox
- » My Groups

» Free Applications

- » Forum
- » Conference Calendar
- » Graphics Module

» Upgrade Applications

- » nuclear science

» Coming soon

- » materials science
- » actinide science

nucleonica [wiki]

» **Nucleonica at a glance** September 13, 2007

NUCLEONICA is a new science networking portal from the European Commission's Joint Research Centre. The portal provides a customisable, integrated environment and collaboration platform for the scientific community using the latest "Web 2.0" technology. The European Nuclear Society (ENS) has recently published an article on Nucleonica.

» **Yushchenko expects to obtain agreements "on certain practical issues" from the EU**

Ukrainian President Viktor Yushchenko has announced at the opening of the 11th Ukraine-EU Summit in Kiev that "Ukraine is interested in certain practical issues"...

Source: regnum   Language: EN   Date: 2007-09-14T13:11+0200

» **Rice: United States is working to stop nuclear proliferation**

US foreign secretary makes comment in response to question about Syria building nuclear reactor with North Korean help; Syria denies report.

Source: jpost   Language: EN   Date: 2007-09-14T12:22+0200

» **UN backs Iran-IAEA agreement...**

LONDON, September 14 (IranMania) - UN Secretary-General Ban Ki-Moon expressed his support for the recent agreement reached between Iran and the International Atomic Energy Agency (IAEA), Islamic Republic News Agency reported. In a meeting with Iran's permanent Representative to the United Nations....

Source: iranmania   Language: EN   Date: 2007-09-14T11:46+0200

» **China welcomes Iran-IAEA nuclear plan ...**

LONDON, September 14 (IranMania) - China welcomed Iran's nuclear transparency deal with UN inspectors, despite Western fears that it could be a recipe for delay, Reuters reported. The August 21 "work plan" with the International Atomic Energy Agency (IAEA) commits Iran to answer longstanding....

Welcome, Joe

Edit Preferences

My Profile   My Community

» My Community Events

- You have 0 new messages
- You have 0 new contact list requests

» Recent Nucleonica Members

- Ceren Kutahyalı
- Piotr Gaczynski
- Cem Gok
- Asun Fernandez Carretero




## What are the advantages of Nucleonica networking?

- Represent yourself in a professional international science community and share your views and ideas. (My Profile)
- Meet scientists from your areas of interest and build up an international contact list. (My Community, My Contacts)
- The groups and their forums provide a very convenient team-working and problem solving environment. (My Groups)
- Stay in contact with all your colleagues whether from previous employment, workshops or conferences.

## My Profile...

Sándor SZAKÁCS
GIG - Central Mining Institute, Katowice


















[Send message](#)  
[Add to Your Contact List](#)

<b>Name</b>	Sándor SZAKÁCS
<b>Location</b>	Katowice, Poland
<b>Nationality</b>	hungarian-romanian
<b>Organization</b>	GIG - Central Mining Institute, Katowice
<b>Address</b>	Egressy utca 24-26. 2360 GYAL, Hungary
<b>Job Title</b>	contract scientist (Marie Curie Tok)
<b>Areas Of Interest</b>	thermoluminescent dosimetry, environmental aerosol radioactivity monitoring
<b>Latest Publications</b>	<p>Preparation and investigation of thermoluminescence properties of CaSO<sub>4</sub>:Tm,Cu. by: I. Kása, R. Chobola, P. Mell, S. Szakács, and A. Kerekes . In: Radiat Prot Dosimetry 2007 123 (1): 32-35;</p> <p>Radiation Exposure of Medical Staff Due to Iodine-131 Therapy of Hyperthyroidism and Thyroid Cancer, by: Andor Kerekes, Sándor Szakács, Teréz Séra, István Sinkovics, Sándor Pellet, and László Pávics, in: Central European Journal of Occupational and Environmental Medicine 2004; 10(3):246-251 .</p> <p>Characterization of CaSO<sub>4</sub>-based dosimeter materials with PGAA and thermoluminescent methods, by: L. Szentmiklósi, Zs. Révay, R. Chobola, P. Mell S. Szakács, I. Kása, in: Journal of Radioanalytical and Nuclear Chemistry, Vol. 267, No.2 (2006) 415-420:</p>
<b>E-Mail</b>	szakacs@t-email.hu
<b>Phone</b>	+36305891968
<b>Products (TLD)</b>	High Quality CaSO <sub>4</sub> base TLD crystallite powders and glued detector disks for gamma, alpha and beta TL c
<b>Looking for:</b>	-second hand TLD reader, (Finel preferred)

## My Community / My Contacts...

☒ all Users

☐ my Contacts

Search: <input type="text"/>		
Image	Name	Organization
	MARTINA ADORNI	University of Pisa - DIMNP - GRNSPG
	Aleksandra Schwenk-Ferrero	Forschungszentrum Karlsruhe - Institute for Nuclear and Energy Technologies
	Mikael Andersson	Westinghouse Electric Sweden AB
	Martin Badertscher	
	Remigiusz Baranczyk	European Commission DG TREN
	Enrico Barbina	Nabla Progetti Srl
	Valerio Barbina	Nabla Progetti Srl
	Bjoern Becker	Forschungszentrum Karlsruhe GmbH, Institut fuer Reaktorsicherheit
	Fabio Belloni	European Commission, DG-JRC, Institute for Transuranium Elements
	Andrey Berlizov	Institute for Transuranium Elements, EC JRC
	Emilie BOSSE	CEA
	Alberto Concejal Bermejo	Iberdrola Engineering and Construction S.A.U
	Grigore Damian	Babes-Bolyai University, Department of Physics
	Robert Dautray	Academie des Sciences
	Guadalupe De Cordoba	
1 2 3 4 5 > ... Last »		

## My Groups...

Groups
Add / Edit Group

Category: all

Groups:

- Nucleonica Developers
- Karlsruhe Nuclide Chart
- JRC-ITU Research Fellows

**Recently created groups**

- JRC-ITU Research Fellows
- Karlsruhe Nuclide Chart
- Nucleonica Developers

**Biggest groups**








- Nucleonica Developers
- JRC-ITU Research Fellows
- Karlsruhe Nuclide Chart

**Nucleonica Developers**

Leave Group

**Founder:** Christian Lambert  
**Category:** Nuclear Science  
**Description:** Members of the Nucleonica Developers group  
**Infos:**  
**Number of Users:** 7

**User List:**

Image	Name	Organization
	Henning Fries	DiaLOGIKa GmbH
	Jean Galy	Institute for Transuranium Elements
	Carsten Grammes	DiaLOGIKa GmbH
	Christian Lambert	DiaLOGIKa GmbH
	Ralf Linnebach	DiaLOGIKa GmbH
	Joseph Magill	European Commission
	Clemens Zang	DiaLOGIKa GmbH

1

Page 1 of 1 (7 items)

## My Groups...

Groups

Add / Edit Group

Category:

all

Groups:

Nucleonica Developers

Karlsruhe Nuclide Chart

JRC-ITU Research Fellows

Recently created groups

JRC-ITU Research Fellows

Karlsruhe Nuclide Chart

Nucleonica Developers

Biggest groups

Nucleonica Developers

JRC-ITU Research Fellows

Karlsruhe Nuclide Chart

JRC-ITU Research Fellows

Join Group

Founder:

Asun Fernandez Carretero

Category:

Nuclear Science

Description:

Members of the ITU Research Fellows group

Infos:

The ITU Research Fellows Group was created on the 13th Sept. 2007

Number of Users:

6

User List:

Search:

Image	Name	Organization
	Asun Fernandez Carretero	European Commission, Joint Research centre
	Patrik Fors	European Commission - JRC - ITU
	Petronela Gotcu	European Commission - ITU
	Ceren Kutahyali	European Commission JRC-ITU
	Reijo Pehrman	ITU

1

Page 1 of 1 (5 items)

## JRC-ITU Research Fellows Forum...

Forum > ITU Research Fellows > Next Research Fellows Meeting 17 Sept. 2007

Message

posted 09/09/2007 09:28:53

Dear all,  
 After the summer break it is time to come to reality. I have been thinking how it will be the best way to satisfy your desires and those from the management. Of course to do that in such a way that everyone is fully satisfied is almost impossible but let's try for the best. My suggestion is that we will combine pure RF meetings with RF seminars open to all ITU. Therefore I would like to "invite" all of you to our next FR meeting on 17th September 2007 in the Colloquium Wing C (see agenda attached).  
 Before our meeting we will have a presentation by J. Magill about NUCLEONICA.  
 Best regards and see all of you on the 17th  
 Asun

AGENDA  
 Research Fellows Meeting

17th September 2007, 14:00

Colloquium Wing C

14:00 Welcome and approval of the agenda

14:10 Nucleonica presentation . J. Magill

15:00 RF meeting  
 RF organization  
 Meetings and Seminars at ITU  
 RF Exchange meetings with other institutions  
 Administrative matters  
 a.o.b.

Topic

Next Research Fellows Meeting 17 Sept. 2007

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- >> My Profile
- >> My Contacts
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**> Free Applications**


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**> Upgrade Applications**

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**> Coming soon**

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- >> actinide science



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**Source:** regnum **Language:** EN **Date:** 2007-09-14T13:11+0200

**>> Rice: United States is working to stop nuclear proliferation**

US foreign secretary makes comment in response to question about Syria building nuclear reactor with North Korean help; Syria denies report.

**Source:** ipost **Language:** EN **Date:** 2007-09-14T12:22+0200

**>> IUI backs Iran-IAEA agreement...**

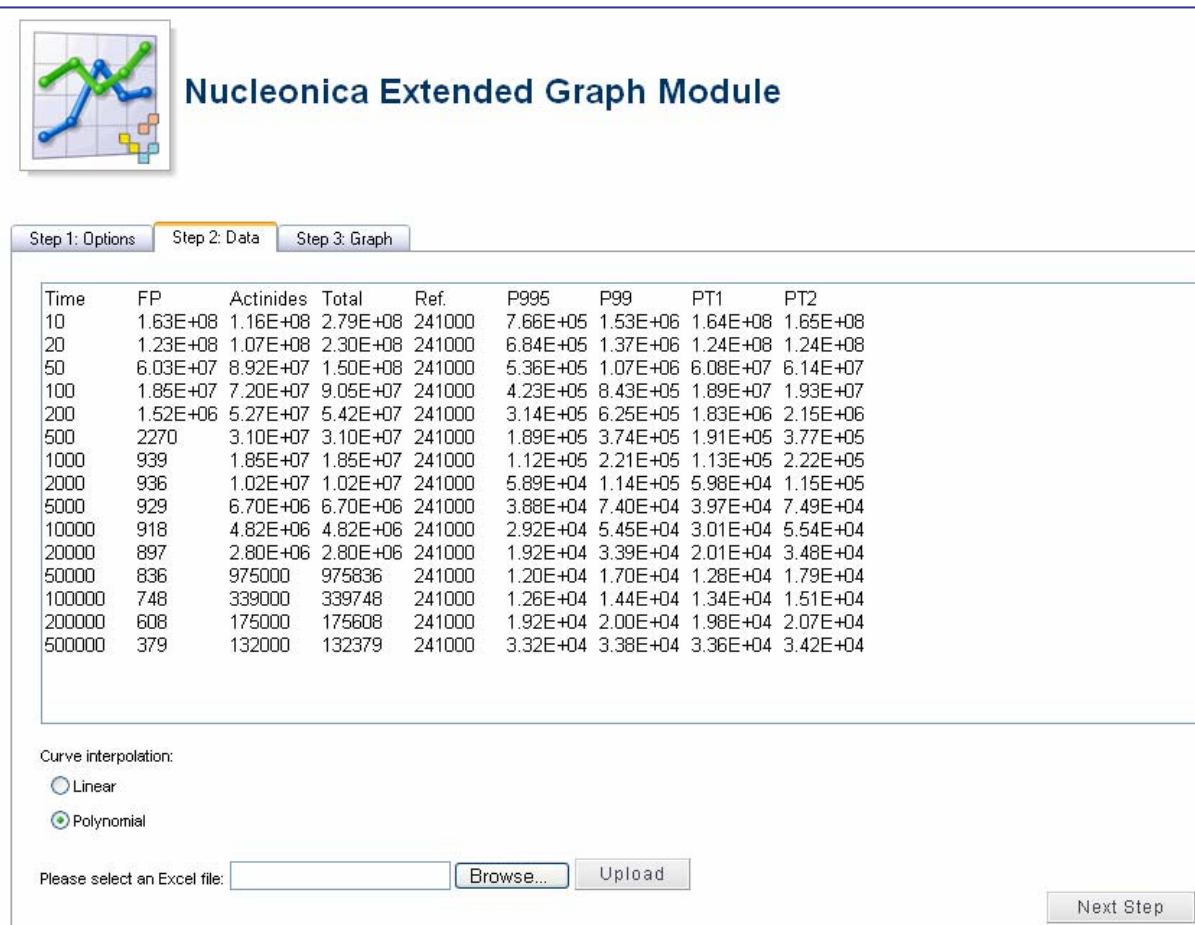
LONDON, September 14 (IranMania) - UN Secretary-General Ban Ki-Moon expressed his support for the recent agreement reached between Iran and the International Atomic Energy Agency (IAEA). Islamic Republic News Agency reported. In a meeting with Iran's permanent Representative to the United Nations...

**Source:** IranMania **Language:** EN **Date:** 2007-09-14T11:46+0200


**>> China welcomes Iran-IAEA nuclear plan ...**

LONDON, September 14 (IranMania) - China welcomed Iran's nuclear transparency deal with UN inspectors, despite Western fears that it could be a recipe for delay, Reuters reported. The August 21 "work plan" with the International Atomic Energy Agency (IAEA) commits Iran to answer longstanding...

# WebGraphics...



## WebGraphics...



### Nucleonica Extended Graph Module

Step 1: Options   Step 2: Data   Step 3: Graph

#### General Graph Settings

**Image Width:**    **Image Height:**

**Line Style:**

☒ Border  
☒ Graph Border  
☒ Show Legend

#### Axes

Axis	Type	Min	Max
Y	<input type="radio"/> linear	<input type="text" value="100"/>	<input type="text" value="1000000000"/>
	<input checked="" type="radio"/> log	<input type="checkbox"/> Auto scale Y	
X	<input type="radio"/> linear	<input type="text" value="4"/>	<input type="text" value="2000000"/>
	<input checked="" type="radio"/> log	<input type="checkbox"/> Auto scale X	

#### Titles

**Graph Title:**

**Category (X):**

**Value (Y):**

#### Gridlines and Ticks

Category (X) Axis	Value (Y) Axis
<input checked="" type="checkbox"/> Major Gridlines	<input checked="" type="checkbox"/> Major Gridlines
<input type="checkbox"/> Minor Gridlines	<input type="checkbox"/> Minor Gridlines

**Ticks Location:**  
☐ Outside scale   ☒ Inside scale   ☐ Through scale

**Tick Steps:**

X Axis: Major Step    Minor Step

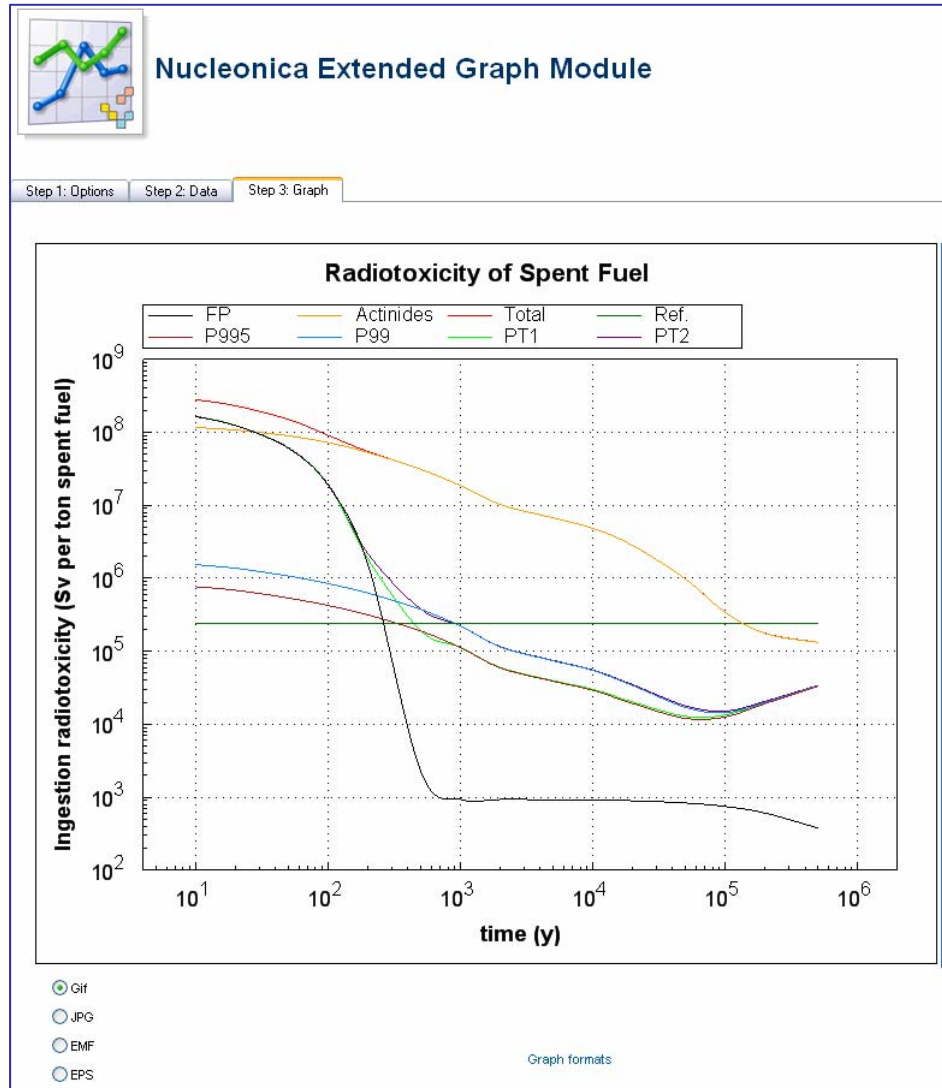
☒ Auto set steps

Y Axis: Major Step    Minor Step

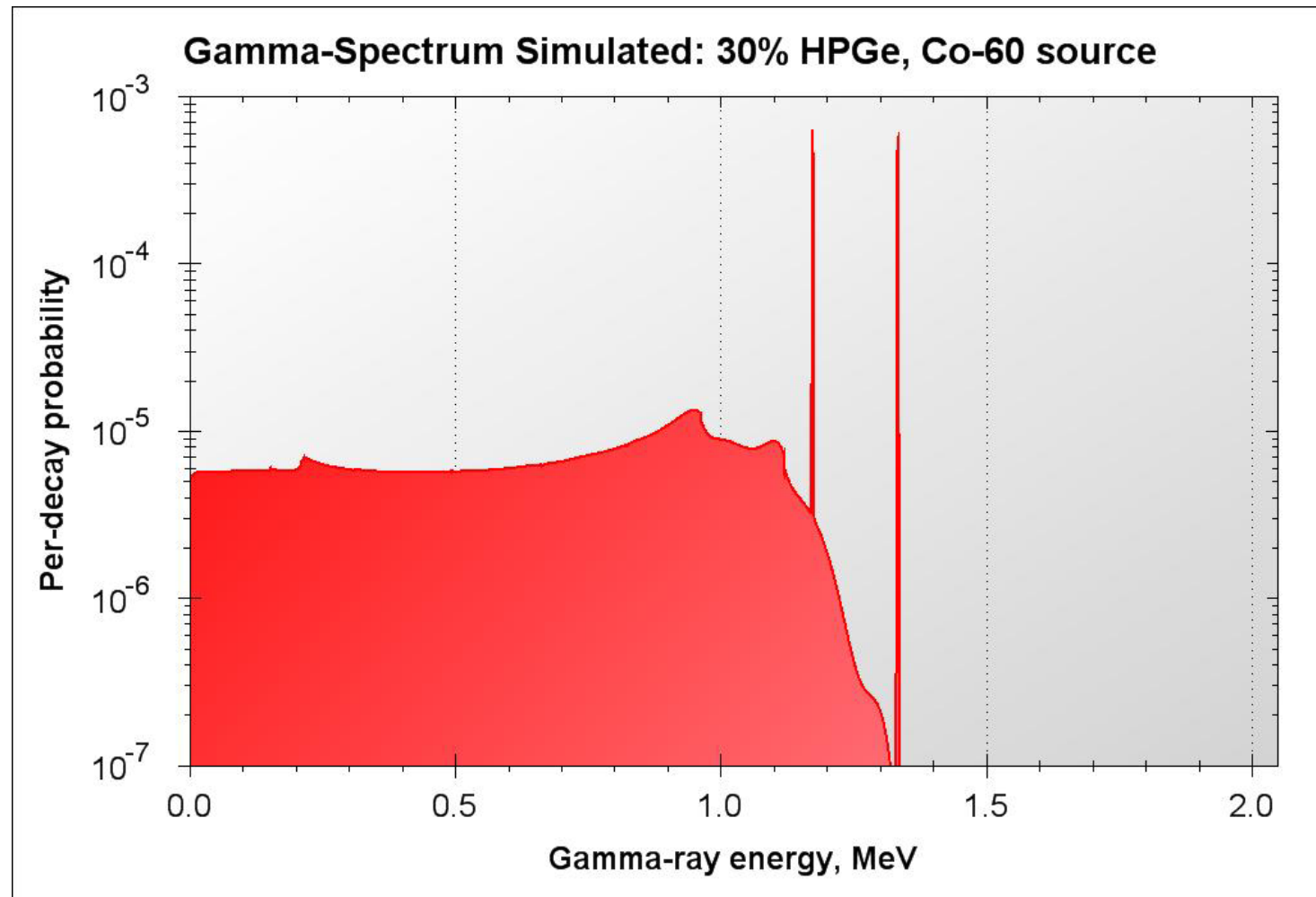
☒ Auto set steps

Please select a configuration file:


# WebGraphics...



## WebGraphics...



## WebGraphics...



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## Help:Graphics File Formats

Graphics File Formats

Below a brief description of the graphics file formats used in Nucleonica are given together with some information on their use.

**Printing**

PDF: Portable Document Format, requires Adobe Acrobat, best used for printing

SVG: Scalable Vector Graphics, requires the Adobe SVG Viewer, best used for printing

**Web Pages**

PNG: Portable Network Graphics, best used for web pages

JPG: (JPEG) Joint Photographic Experts Group, best used for web pages

**Clip Art**


EMF: Enhanced Metafile Format, for use in programs such as MS Word, Powerpoint

**Graphics**

EPS: Encapsulated Postscript, for use in programs such as Adobe Illustrator, Quark Express.



## Conference Calendar...



### Nucleonica Conference Calendar

Conferences My Conferences

September 2007						
Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
27	28 Maintenance contract - first draft new start page docs to wiki phone Miller	29 new start page sent - forum qu. decay heat -	30	31	1	2
3 10:30: 'AGS-Belehrungsraum' Wing D - Room 110 c.	4	5	6	7 14:00-16.00 hrs: Actinide Unit meeting, Wing E	8	9 GLOBAL 07
10 GLOBAL 07	11 GLOBAL 07	12 GLOBAL 07	13 14:00 Green Room KET meeting GLOBAL 07	14	15	16 European Nuclear Conference ENC 2007, Brussels
17 Nucleonica presentation to ITU Research Fellows	18	19	20	21	22	23
24	25	26	27	28	29	30
1	2	3	4	5	6	7


14 September 2008 [Physor '08: International Conf. Physics of Reactors](#)

09 June 2008 [In Situ Nuclear Metrology as a Tool for Radioecology International Symposium, CNESTEN-Radioprotection of Environment, 2008. E-mail: insinume2008@yahoo.com, B.P. 1382 R.P. 10001-Rabat \(Morocco\). Tel.: +212.37.81.97.59- Fax: +212.37.80.30.67.](#)

25 February 2008 [PARTRA P&T Cluster Meeting](#)

01 December 2007 [IRPA 12 Deadline!](#)

## Conference Calendar...



### Nucleonica Conference Calendar

Conferences
My Conferences

#### Add new conference

September 2007						
Mo	Tu	We	Th	Fr	Sa	Su
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
1	2	3	4	5	6	7

**My existing conferences**

Physor 08: International Conf. Physics of Reactr  
 PARTRA P&T Cluster Meeting (25/02/2006  
 IRPA 12 Deadline!! (01/12/2007)  
 International Conference on Illicit Nuclear Traffi  
 meeting BfS (15/11/2007)

**Number of days** 1

**Conference Name:**

**Description**

**Conference Web Site:**

☐ Share with other users


**Open call for research fellowships at ITU**


Dear colleagues, I am pleased to inform you that a new open call for research fellowships has been published - on the ITU website: <http://itu.jrc.ec.eu.int/index.php?id=opencalls> - in today's edition of NATURE and on Naturejobs.com. [www.nature.com/naturejobs](http://www.nature.com/naturejobs) Furthermore the call will be published in SCIENCE (edition of 31 August 2007) and on <http://sciencecareers.sciencemag.org/>. The deadline for applications is 30 September 2007. The schedule for interviews will be distributed as soon as possible.

Delete
Close


**IRPA 12, 19-24 October 2008, Buenos Aires, Argentine**

The Argentine Radiation Protection Society is hosting the 12th International Congress of the International Radiation Protection Association. It will take place in Buenos Aires (Argentina), from October 19 to 24, 2008, at the Buenos Aires Sheraton Hotel and Convention Center. Call for papers: The ICPC Committee invites to submit papers on any of the Topics of the IRPA 12 Scientific Program. See below the Congress schedule. Abstracts must be received before the deadline of 1 December 2007.

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## Help: Training Course Announcements

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  - 1.4 How you will benefit from this course
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- 2 Previous Training Courses

**9th Nuclear Science Training Course with Nucleonica (2 day course)** [\[edit\]](#)

**The next training course will be held in on the 26/27th October 2007 in Karlsruhe.**

**About the Nucleonica Training Course** [\[edit\]](#)

The course introduces the basic concepts of nuclear science and technology and is suitable for participants from the nuclear industry, nuclear research organizations, universities, regulatory authorities and nuclear medicine institutes. Core topics range from the history of radioactivity, nuclide charts, radiation protection and health physics through to the storage and transportation of radioactive materials. Recent exciting developments in nuclear science are highlighted in a series of special topics covering nuclear forensic science / illicit trafficking, nuclear science with high intensity lasers, environmental radioactivity, radiation hormesis and the LNT hypothesis, etc. Lectures will be followed by a series of "hands-on" case studies based on the use of the NUCLEONICA web-based applications to give the user direct experience in the above areas.

**Who should attend** [\[edit\]](#)

Chemists, physicists, material scientists, engineers, technicians, and managers who recognize the need for improvement of their knowledge of the nuclear sciences. Completion of this course will enhance and support nuclear related decision-making as well as provide formal academic principles in nuclear science. Course requirements are a basic knowledge on the physics and chemistry. The course will be held in English.

# NUCLEONICA ...Science Networking and Applications

Joseph Magill

Research Fellows Meeting  
17th September 2007, 14:00